

### **Remarks**

The examiner requested restriction under 35 U.S.C. § 121 to:

Group I, Claims 1-16, drawn to a method of embossing a cured silicone resin thermoset substrate to imprint patterns onto the substrate from a master mold by stacking a master mold, applying pressure, cooling the product, and releasing the substrate.

Group II, Claims 1-17, drawn to a product produced by the above method.

The applicants respectfully traverse the election requirement as the Examiner has failed to demonstrate either of the criteria necessary for a proper restriction requirement. MPEP §803 sets forth the following two criteria for a proper requirement for restriction between patentably distinct inventions:

- (1) The inventions must be independent or distinct as claimed; and
- (2) There must be a serious burden on the examiner if restriction is not required.

The examiner failed to satisfy criterion for restriction because Groups I and II do relate to a single inventive concept, a method of embossing a cured silicone resin thermoset substrate to imprint patterns onto the substrate from a master mold and the product resulting from the method. In this case the method of this invention and the resulting product are clearly interconnected. Furthermore, nowhere in Oshima et al is disclosed a cured silicone resin substrate, and a master mold that is then used to imprint patterns onto the substrate. Nowhere in Oshima is it disclosed or taught that a feature can be imprinted onto the surface of a cured silicone resin thermoset substrate. One skilled in the art would not be motivated by the teaching of Oshima et al. to arrive at the invention as claimed by Applicants. Applicants believe that one skilled in art would have been required to conduct extensive experimentation based on the disclosure of Oshima et al. to arrive at the Applicants invention in an extremely unpredictable art. Furthermore, Oshima et al. discloses a paste material that is imprinted into and then the paste material is solidified to transfer the pattern to the solidified material (see abstract). This is not pertinent to the Applicants application as Applicants invention is directed to imprinting and retaining a pattern on a solidified (actually a crosslinked silicone material).

Therefore Applicants conclude that an artisan having common sense at the time of the invention would not have reasonably considered a method of embossing a *cured silicone resin thermoset substrate* to imprint patterns onto the substrate from a master mold by stacking a master mold, applying pressure, cooling the product, and releasing the *cured silicone resin thermoset substrate*. The resulting product would also therefore be a novel and nonobvious advancement over the prior art. Therefore the technical feature linking the two inventions does provide a contribution over the prior art and a single inventive concept does exist. Therefore restriction is not appropriate in this case.

However, if the examiner should make this requirement final, the applicants elect to prosecute Group I, claims 1-16 at this time. The applicants make this election with traverse for the reasons discussed above.

### **Claim Rejections – 35 USC § 103**

The Examiner rejected claims 1, 2, 4, and 11 under 35 U.S.C. §103(a) as being unpatentable over Davis (US2002/0025408 A1) in view of Crystal (US3951060). Regarding Claim 1, the Examiner argues that it would have been obvious to one having ordinary skill in the art at the time of the invention to cure the silicone of Davis as disclosed in Crystal because this renders the silicone surface nontacky (abstract) which reduces the degree that the substrate will stick to the imprint master resulting in easier separation. Regarding Claim 2, the Examiner states that Davis teaches that the silicone is a film. Regarding Claims 4 and 11, the Examiner argues that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected a suitable pressure to effectively emboss the substrate, the pressure being a result effective variable routinely optimized by those of skill in the art.

Regarding Davis, in paragraph [0054] Davis cites “thermosetting resins such as ... mineral filled silicone...”. However nowhere in Davis is a “cured silicone resin thermoset substrate” disclosed or suggested. There is no teaching or suggestion in Davis of using a “silicone resin” in their method. The Examiner admits that there is no teaching in Davis that their silicone

is “cured”. Without curing a silicone resin cannot be embossed. One skilled in the art would have to conduct extensive experimentation of different types of silicones in a very unpredictable art. Clearly there is not a finite number of identified predictable solutions available to one skilled in the art in this instance. Furthermore the disclosure of Davis provides no motivation to one skilled in the art to attempt to cure the silicone. Without curing of the silicone, the Applicants invention is not arrived at.

With regard to Crystal, it does not teach use its silicone materials for embossing substrates to imprint patterns onto the substrate from a mold. Thus this reference does not supply any motivation to one skilled in the art looking to make improvements in the field of embossing substrates. Crystal teaches a process to form a pattern of controlling ink releasing ability but selectively and chemically degrading printing areas and does not teach or disclose any mechanical or physical steps for embossing substrates such that it makes them capable of having patterns imprinted onto them from master mold. Thus Applicants believe this reference teaches away from the Applicants invention. Prior art must be considered in its entirety, including disclosures that teach away from the claims MPEP §2145 (X)(D), MPEP §2143.01. The proposed modification cannot render the prior art unsatisfactory for its intended purpose or change the principle of operation of a reference MPEP §2145 (X)(D), MPEP §2143.01. A prior art reference that “teaches away” from the claimed invention is a significant factor to be considered in determining obviousness MPEP §2145 (X)(D). It is improper to combine references where the references teach away from their combination MPEP §2145 (X)(D).

Furthermore, the silicones of Crystal are silicone gums (see Column 2, line 45 through Column 3, line 15 of Crystal) which again Applicants believe teaches away from the Applicants invention. Nowhere in the disclosure of Crystal is a “silicone resin” taught or suggested. Thus even if the disclosures of Davis and Crystal are combined the Applicants invention is not arrived at. To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art MPEP §2143.03. All words in a claim must be considered in judging the patentability of that claim against the prior art MPEP §2143.03. Therefore, the

Applicants request that the rejection under 35 U.S.C. §103 be withdrawn and the claims allowed to issue.

With regard to Claims 2, 4, and 11, Applicants believe Claim 1 is nonobvious and has been distinguished from Davis and Crystal per the comments above and thus Claims 2, 4, and 11 are also nonobvious based on their dependency to Claim 1. If an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious MPEP §2143.03.

The Examiner rejected claim 3 under 35 U.S.C. §103(a) as being unpatentable over Davis (US2002/0025408 A1) in view of Crystal (US3951060) as applied to Claim 1, above, and further in view of Maruoka et al (US 2004/0086728 A1). The Examiner argues that it would have been obvious to one of ordinary skill in the art at the time of the invention to use the silicone film with the specified glass transition temperature of 70°C to 120°C in the invention of Davis in view of Crystal as this is an art recognized glass transition temperature of silicone as exemplified by the teaching of Maruoka et al.

Applicants believe that Crystal and Davis have been distinguished from the Applicants invention per the discussion above. The Examiner admits that Crystal fails to teach that the glass transition temperature is from 50°C to 120°C. Nowhere in Marouka et al. is a silicone resin disclosed or suggested. Maruoka et al. teaches an acrylic silicone coating which again Applicants believe teaches away from their invention. Thus even if the disclosures of Davis and Crystal and Maruoka et al. are combined the Applicants invention is not arrived at. To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art MPEP §2143.03. All words in a claim must be considered in judging the patentability of that claim against the prior art MPEP §2143.03. Therefore, the Applicants request that the rejection under 35 U.S.C. §103 be withdrawn and the claims allowed to issue.

The Examiner rejected claims 5 and 12 under 35 U.S.C. §103(a) as being unpatentable over Davis (US2002/0025408 A1) in view of Crystal (US3951060) as applied to Claim 1, above, and further in view of Braunschweig et al. (US 2003/0143938 A1). The Examiner argues that it

would have been obvious to one skilled in the art at the time of the invention to use aluminum, as taught in Braunschweig et al., in the invention of Davis in view of Crystal because aluminum is a common metal and if said master is made of aluminum it can be recycled after its useful lifespan.

Applicants believe that Crystal and Davis have been distinguished from the Applicants invention per the discussion above. The Examiner admits that Davis in view of Crystal fail to explicitly teach the material used to make the mold. Nowhere in Braunschweig et al. is a silicone resin disclosed or suggested. In fact nowhere in Braunschweig et al. is a silicone material taught, only polymer precursor materials are disclosed. Again Applicants believe this in fact teaches away from their invention. In addition, Braunschweig et al. does not teach mechanical or physical steps for embossing substrates such that it makes them capable of having patterns imprinted onto them from master mold. It is not possible to emboss liquid materials with mechanical means. Use of liquid (uncured) polymer precursor materials in place of the cured silicone resin thermoset substrate in the instant invention would render it inoperable.

Thus even if the disclosures of Davis and Crystal and Braunschweig et al. are combined the Applicants invention is not arrived at. To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art MPEP §2143.03. All words in a claim must be considered in judging the patentability of that claim against the prior art MPEP §2143.03. Therefore, the Applicants request that the rejection under 35 U.S.C. §103 be withdrawn and the claims allowed to issue.

Applicants acknowledge that Claims 6-10 and 13-16 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims.

Applicants hereby Petition for a one month extension of time. You are authorized to charge deposit account 04-1520 for any fees necessary to maintain the pendency of this application. You are authorized to make any additional copies of this sheet needed to accomplish the purposes provided for herein and to charge any fee for such copies to deposit account 04-1520.

Respectfully Submitted,  
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